

Description of a new Species of *Idotea* (Isopoda) from the Sea of Marmora and the Black Sea. By WALTER E. COLLINGE, D.Sc., F.L.S., etc., Research Fellow of the University of St. Andrews (The Gatty Marine Laboratory, St. Andrews).

(PLATE 23.)

[Read 4th May, 1916.]

IN his interesting account of the Isopoda collected by the 'Thor' on the Danish Oceanographical Expedition, 1908-1910, to the Mediterranean and adjacent seas*, Stephensen records from numerous Stations *Idotea metallica*, Bosc, remarking: "The determination of this species proved at first a matter of some difficulty, owing to the fact that all the specimens—with the exception of those from Sts. 208 and 341, which had exactly the same outline as the figure given by Dollfus—were far narrower than they should be according to the statements and illustrations published."

For some time past I have felt convinced that there existed an allied species which was being confused with *I. metallica*. In connection with other work on this family of Isopoda, I have had occasion to examine large numbers of this latter species from our own coasts and from numerous localities abroad, and I have been struck by the general uniformity that prevailed in all the specimens. Thus it was practically impossible to find the slightest difference in shape, size, or colour, in examples from Japan, North America, the Mediterranean and Adriatic Seas, and our own coasts.

Miers † states that he had observed "considerable variation in the degree of prominence of the epimera [coxal plates] and in the width of the thoracic segments," and this only served to deepen the conviction that there existed two closely allied, but distinct species.

On comparing the figures of the appendages, etc., given by Stephensen (*op. cit.* p. 13) with some recently made of *I. metallica*, I noted numerous important differences, and so marked were these that I felt sure that he was dealing with a species quite distinct from *I. metallica*.

Dr. Stephensen has very kindly sent me for examination the whole of the specimens collected by the 'Thor' at various Stations, and upon examination it is at once evident that in addition to a few examples of *I. metallica*, Bosc, from Stations 208 and 341, the remainder of the specimens are quite distinct from that species. I am therefore describing the new species, with figures of the chief structural characters.

* Vol. ii. D. i. 1915, pp. 1-53, 33 figs.

† Journ. Linn. Soc., Zool. vol. xvi. (1881) p. 37.

It gives me much pleasure to associate the name of Dr. Stephensen with this interesting species, and to express my thanks to him and the authorities of the Zoological Museum of the University of Copenhagen, for their kindness in forwarding to me the whole of this interesting collection.

IDOTEA STEPHENSENI, n. sp. (Plate 23. figs. 1-12.)

Body oblong, with sides nearly parallel, slightly convex; surface finely rugose. Cephalon (Pl. 23. fig. 1) wider than long, anterior margin deeply excavate with the lateral portions produced as sharp points in front of the eyes; lateral margins sloping inwards, posteriorly with deeply impressed furrow. Eyes large and round, situated dorso-laterally. Antennulæ (Pl. 23. fig. 2) short, 1st joint expanded, articulating with the cephalon on the ventral side of the 1st joint. Antennæ (Pl. 23. figs. 3, 4) elongated and robust, nearly one-third the length of the body; peduncular joints robust, with short stiff setæ; flagellum with 11-12 joints and short style, excepting the first four all the joints are elongated. First maxillæ (Pl. 23. fig. 5) with outer lobe terminating in six stout curved spines and six finer inner ones, setaceous on the inner side; inner lobe with rounded head and three long setose spines, and a setule on the outer border of the distal end, setaceous on the inner side. Maxillipedes (Pl. 23. fig. 6) fairly long; palp 4-jointed, with the 4th joint produced anteriorly and indented on the outer margin; epipodite oval, distal inner lobe wide, basal plate short. The first four segments of the mesosome are almost subequal, also the last three; pleural plates of the 1st segment terminating in a blunt point, the anterior and posterior angles being cut away. Coxal plates (Pl. 23. fig. 7) occupying the whole of the lateral margins of segments 2-7, the posterior angles are drawn out as sharp points, which are directed laterally on segments 2-4 and posteriorly on segments 5-7. The appendages of the mesosome (Pl. 23. figs. 8, 9) slender and elongated, with bilateral and unilateral dentate spines on the sides (Pl. 23. fig. 10), also stout plain spines. Metasome (Pl. 23. fig. 11) with two short segments and strongly-marked lateral sutures indicating a third coalesced one, all laterally produced as sharp spines; terminal segment strongly arched, lateral margins converging very slightly towards the middle of their length, then expanded a little and curving to form two faint rounded lateral points and a median indication of a third one. Uropoda (Pl. 23. fig. 12) elongated, flattened, with nearly parallel sides, posterior margin slightly curved; endopodite almost straight on the inner margin, showing a blunt point on the inner side of the posterior margin, which is slightly emarginate, and with the outer margin cut away a little; setose style short.

Length of ♂ 31 mm., of ♀ 24.5 mm.

Colour (in alcohol) yellow, dorsally densely punctated with fine irregular blackish-brown coloured markings.

Hab. Sea of Marmora and Black Sea.

Type. In the Zoological Museum of the University of Copenhagen.

Remarks. To the naked eye *I. Stephenseni* is at once distinguishable from its ally, *I. metallica*, Bosc, by the prominent, somewhat triangular-shaped coxal plates of the mesosome and the form of the terminal segment of the metasome. Further, it is much more elongated than *I. metallica*, the sides of the body being nearly parallel.

I have carefully compared this species with specimens of *I. metallica* from Japan, North America, the Mediterranean and Adriatic Seas, and our own coasts, but all the 'Thor' specimens, excepting those from Stations 208 and 341, are very distinct from any of them.

In colour there is a marked contrast to the dull bluish green of *I. metallica*, for here the ground-colour is yellow, and, with the exception of the coxal plates, the whole of the dorsal surface is densely punctated with fine, irregular-shaped, blackish-brown coloured markings; these are also present on the antennulæ and antennæ, and the seven pairs of appendages of the mesosome.

I find very little, if any, difference in the general shape of the body in the two sexes, excepting that the females are rather smaller—a feature, in a somewhat lesser degree, common to *I. metallica* also.

The cephalon is wide with the anterior margin curving deeply inwards, whilst laterally it is produced in front of the eyes, the two processes terminating in sharp points. Stephensen's figure does not show these in sufficient detail.

The antennulæ are short with the 1st joint expanded. The point of articulation with the cephalon is on the ventral side of this joint, and not at the base as in *I. metallica* and most other members of the genus.

The antennæ are elongated—in specimens 29.5 mm. long, they measure 12 mm. in length. The setæ on the joints of the peduncle are very characteristic, and quite distinct from anything I can find in *I. metallica*. The 1st joint is small, the 2nd and 3rd almost subequal, the 4th longer, and the 5th the longest of all. The first four joints of the flagellum are ill-defined and short, the remainder being elongated; all have short setæ at the distal end of each joint.

The first maxillæ are stouter than in *I. metallica*, terminating in twelve spines on the outer lobe, and three long setose ones and a setule on the inner lobe.

The maxillipedes are much longer than in *I. metallica*, and the 4th joint of the palp is produced anteriorly, whilst the outer margin has a series of five or six indentations. The groove on the 3rd joint is fairly conspicuous, as

also the thickening of the outer rim of the 4th. The distal inner lobe is widely expanded, and the basal joint short.

The first four segments of the mesosome are almost subequal, and a little longer than the last three. The pleural plates of the 1st segment are directed laterally, and terminate in a blunt point, whereas in *I. metallica* they are slightly expanded, with the anterior and posterior angles rounded. The coxal plates in *I. metallica* occupy the whole of the lateral margins of the 2nd-7th segments, with the posterior angles of the 5th, 6th, and 7th only produced backwards. In *I. Stephenseni* they all stand out from the pleuron as more or less triangular plates, attaining their greatest dimensions on the 4th segment. The terminal portion of the pleuron in each mesosomatic segment is also different from the condition seen in *I. metallica*, being rounded in front and drawn out as a short sharp point posteriorly. On the 5th-7th in the middle of the lateral border of the pleuron there is a slight indentation.

The appendages of the mesosome are much more slender than in *I. metallica*, with the last joint much longer and less robust. These are well shown in the five figures given by Stephensen*. On the sides of the joints there are numerous dentate setæ, some with double rows of teeth, and others with teeth on one side only, in addition to numerous plain spines of various lengths.

The metasomatic segments afford a striking contrast to the condition obtaining in *I. metallica*, where the first two have their pleural plates laterally rounded, also those of the imperfect third segment, while the long terminal segment usually has a more or less strong median ridge, and the lateral margins gradually converging to a truncate posterior extremity. In all the specimens I have examined this posterior margin is sharply truncate, there being no sign of emargination or lateral extensions. In *I. Stephenseni* the pleural plates of the segments 1 and 2 and the imperfect 3rd are laterally sharply drawn out, whilst the terminal segment has the lateral margins very slightly curved inwards about its middle, with the posterior margin terminating in two small, lateral, rounded points, with a slight indentation beyond each and a faintly produced median process. These characters are present in all the specimens examined ranging from 6 mm. to 31 mm. in length.

The figure of the uropod given by Stephensen (*op. cit.* p. 13, fig. 4, *Up.*) is of *I. metallica*, and not of this species.

I. Stephenseni is undoubtedly closely allied to *I. metallica*, Bosc, but perfectly distinct from it, both males and females being easily recognized from the very young stages onwards.

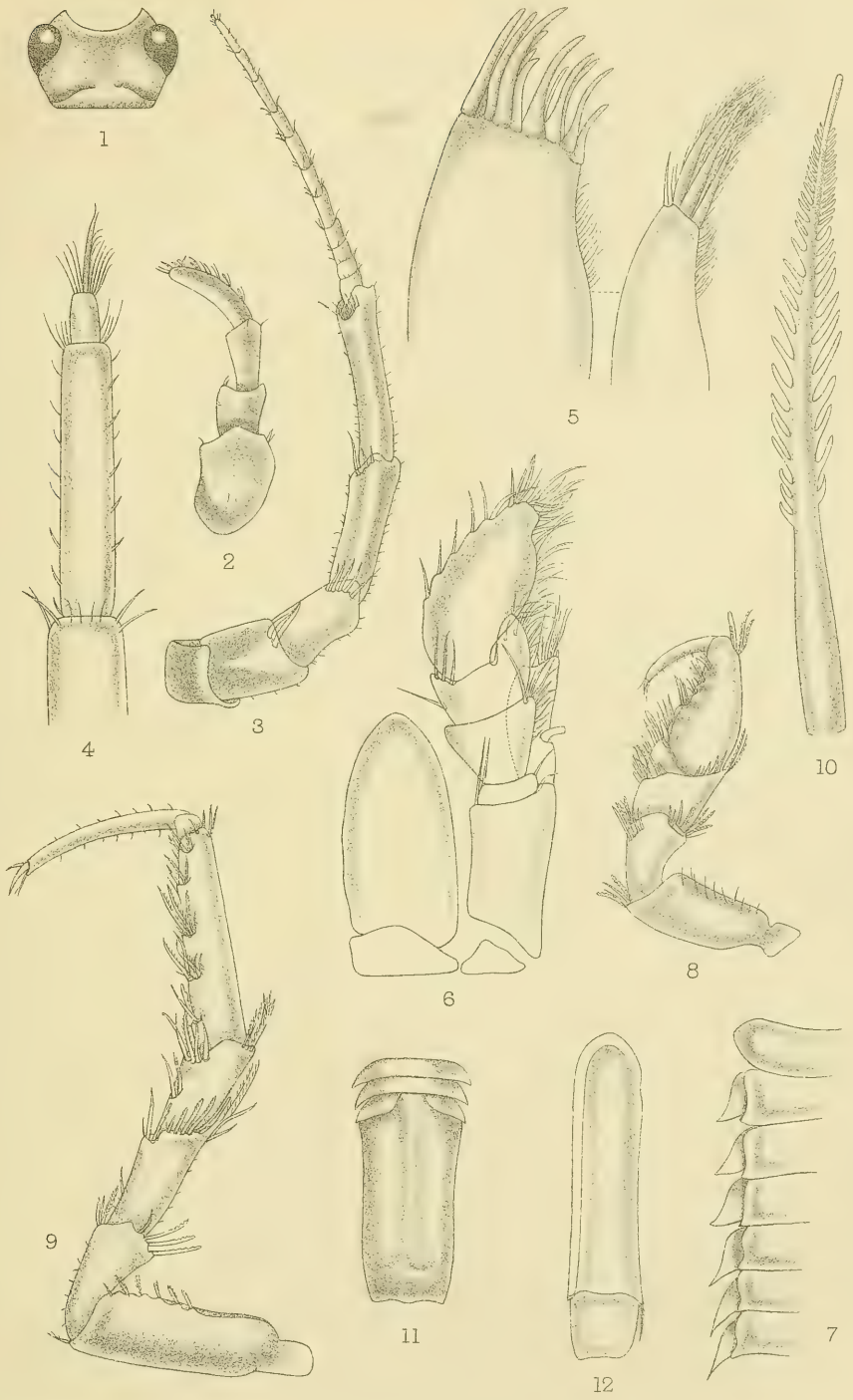
* Danish Oceanographical Expedition, 1908-10, vol. ii. D. i. 1915, pp. 1-53.

EXPLANATION OF PLATE 23.

Idotea Stephensi, n. sp.

- Fig. 1. Dorsal view of the cephalon. $\times 5$.
 2. Dorsal side of the left antennule. $\times 16$.
 3. Dorsal side of the left antenna. $\times 9.5$.
 4. Terminal style of the antenna. $\times 80$.
 5. Ventral side of the terminal portions of the inner and outer lobes of the right 1st maxilla. $\times 45$.
 6. Ventral side of the right maxillipede. $\times 22$.
 7. Dorsal view of the lateral portions of the mesosomatic segments, showing the coxal plates. $\times 4$.
 8. Ventral view of the 2nd thoracic appendage. $\times 12$.
 9. Ventral view of the 8th thoracic appendage. $\times 12$.
 10. Bidentate seta from the 8th thoracic appendage. $\times 160$.
 11. Dorsal view of the metasome. $\times 3$.
 12. Left uropod. $\times 5$.

All the figures are drawn from a male specimen.



H.G.K. del.

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